INTESTINAL POLYPOSIS AND CARCINOMA.

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INTESTINAL polyposis is a rare disease. It has been repeatedly noticed to undergo malignant degeneration. Another interesting feature is that the disease is prone to affect a number of members in the same family. Boas ("Diseases of the Intestines," New York, 1901, page 334)[1] speaks of "heredity." The case that I am going to report seems rather to suggest a certain contagiousness, or at least family predisposition.

L. F., aged twelve years, of healthy German-American parentage, the fourth one of seven healthy children, had been well and a bright child until her ninth year, when she was taken with some obscure bowel trouble. The movements were more or less loose, mixed with mucus and blood, and were frequently attended by tenesmus and pain. Things went on this way for three years without any rectal examination.

On March 4, 1900, I saw her for the first time. She was a pale, emaciated child, with painful facial expression, size and development like nine years rather than twelve. There was continual rectal straining. The abdomen was considerably enlarged, standing out beyond the ribs; resistance and dulness were increased over the left lower quadrant. The examining finger entered easily through the half-opened anus and felt at once soft, pulpy masses obstructing the rectum. Through the proctoscope were seen large numbers of polyps of different sizes, ranging from a pea to a walnut, the pedicle of some of them so much thinned that during examination they fell off with hæmorrhage. At three different times about a hundred polyps were removed

[1] Boas gives full literature about the subject.

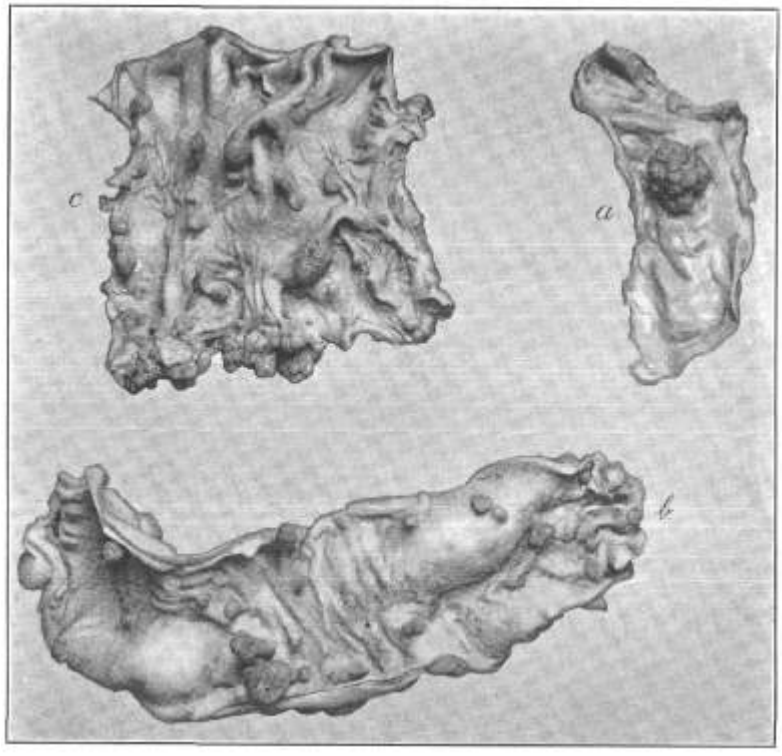

FIG. 1.—*a*, ileum; *b*, transverse colon; *c*, ascending colon.

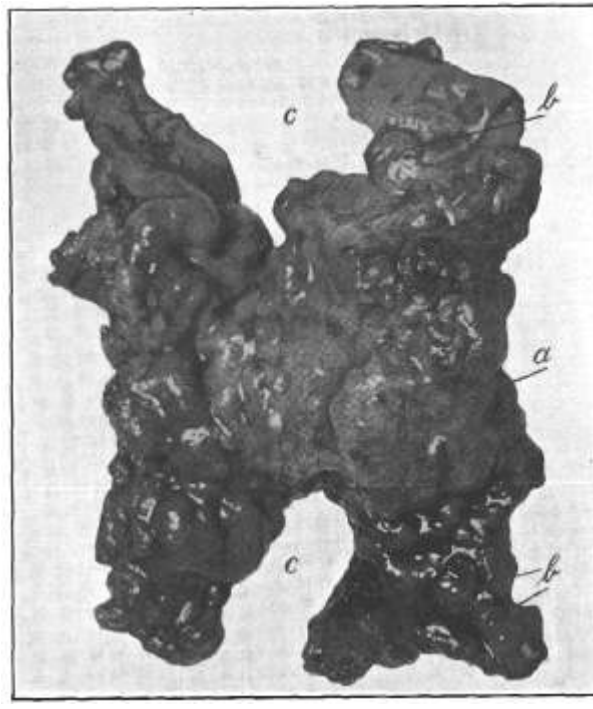

FIG. 2.—*a*, cauliflower growth one inch high; *b,b*, separate polyps. At *c* the tissue was torn away during extirpation.

with the galvanic snare. The dulness and resistance of the abdomen disappeared; it became flatter; but after having removed all the tumors as high up as twelve inches, I had to realize that beyond my reach there were a great many more. About this time there could be felt spread through the whole abdomen what seemed to be enlarged mesenterial glands. The urine continued normal, the bowel movements dysenteric and foul smelling, frequently containing necrotic polyps. Every treatment utterly failed, and on April 4 she died from emaciation.

Post-mortem examination showed general anæmia, flabby, pale heart, mesenterial glands slightly enlarged, the mucosa of colon and several inches of ileum were more or less beset with polyps (see photographs). Some of them were little nodules of pea size just standing out from the mucosa, others had pedicles up to an inch in length. The largest one, of cauliflower shape, was in the ileum. The microscopical diagnosis made by Dr. Bierring, of Iowa City, was "adenoma papillosum." The girl had never been treated with intestinal lavage before March 4.

Several months after her death, her father consulted me for rectal hæmorrhages. Remembering the case of his daughter, I at once gave him a careful examination; but the only pathological conditions found were a few hæmorrhoids, one of them cracked and bleeding quite freely. Up to about ten inches from the anus nothing else could be seen. I touched the bleeding area with persulphate of iron. He felt fairly well after that, and did not see a physician until March 24, 1902, when he came to the hospital to have his "piles" operated. Examination under chloroform and after dilatation of his sphincter revealed the fact that the lower part of the rectum down to about an inch above the anus was filled with spongy, freely bleeding masses which extended through about three inches. The rectal speculum showed a large tumor of cauliflower shape sitting broadly over the site of the prostata; higher up and around it there were several smaller pedunculated growths (see photograph). The larger tumor felt considerably indurated at the base. The symptoms had been slight tenesmus and rather painful defecation with blood and mucus. He was a man of forty-five, looking somewhat older, had been farming all his life long, had never been a very strong man, of somewhat nervous disposition, but he did not feel much weaker now than usually. He does not remember that either of

his parents had bowel trouble or malignant disease. He was unable to give any special data about the beginning of his trouble. The diagnosis of adenocarcinoma seemed well enough established to advise radical operation. This was accepted, and was performed on April 3, with the intention to remove the prostata if this gland should be found involved. The bowels had been cleaned by calomel and castor-oil for six days previous, while the diet was restricted to beef broth, eggs, and sugar. Before operation, ten drops of tincture opium were administered and the bowels thoroughly irrigated with a weak formalin solution. In consideration of the prostatic gland, I chose Hueter's incision. It is made with the patient in lithotomy position in somewhat like a horseshoe shape, with the open side towards the coccyx. A transverse incision of two inches close to the pars bulbosa urethræ penetrates at once into the subcutaneous fat. So do the two sagittal incisions, which extend on both sides of the anus about two inches and a half just beyond the posterior margin of the anus. Dissection is continued until with one gloved finger in the rectum a Cleveland ligature-carrier can be pushed all round the rectum. The carrier draws a thin strip of gauze back and the gut is tied up. Following this ligature, the left index-finger burrows its way around the rectum, and under its protection the anus is severed with scissors from the gut, and after a few more clips through the postanal tissue the skin-flap drops back.

Up to this time no attempts were made to check the bleeding, the endeavor being only to proceed with greatest speed. Now the venous bleeding was checked by hot irrigation, which was kept up during the whole further proceedings. In our case the ligature slipped off from the infiltrated stump, so it was grasped by hysterectomy forceps and pulled down. The levator ani had to be sacrificed, and several branches of the arteria hæmorrhoidalis media were cut through between ligatures after having been put on the stretch; the rest of the work was done by blunt dissection. The peritoneum was stripped off for two and a half inches to bring the healthy bowel down far enough. The diseased gut was resected well within the healthy tissue, and six silkworm-gut sutures inserted in the remaining gut and led out through the anus. These silkworm sutures were at once used to unite the small anal stump with the rectum and allowed to remain long for a while. Thin gauze strips were laid along the gut and brought

out through the two lower angles of the incision; the skin-flap was adjusted with a few silkworm stitches and sewed up with continuous catgut. Uniting anus and rectum with continuous catgut suture was greatly facilitated by using the silkworm sutures for traction. Finally, a large drainage tube wrapped up in gauze was placed in the gut and aseptic dressings applied by a "T" bandage with pressure. The whole work up to this point had taken up just two hours. Right after the operation the patient's pulse was eighty-eight and fell to sixty within the next two days; his temperature rose on the fifth day to 101° F., a little sinus having formed round one of the upper silkworm stitches. After removal of the pus the temperature became normal and stayed so throughout his recovery. The patient was kept on the above-mentioned diet and received four drops of tincture opium for six days. The gauze drains and silkworm stitches were removed on the seventh day, and the bowel washed out with a soft rubber tube introduced into the sigmoid. This lavage was done from the seventh day twice daily, while the patient received regular food. No other physic was given till the twentieth day. The movements were always formed and passed during lavage without injuring the wound. On April 26 patient left for his home with all his wounds perfectly healed; the sphincter has not yet perfectly contracted.

I have reported the proceedings rather extensively because I think that the horseshoe incision as devised by Hueter should become the operation of choice in every low-seated carcinoma in preference to the posterior incision. It is certainly a great advantage to have the blood and nerve supply of the anus and sphincter perfectly undisturbed. Drainage is easy even after the gut has been perfectly united, and while it is true that there is more plastic work at the end, this is very easily accomplished. I heartily endorse the advice given by others not to lose time in trying to check hæmorrhage before the whole operation field is laid open; the amount of blood lost in our case did certainly not reach two ounces. There were no enlarged glands palpable in our case, but I believe they could have been handled from the horseshoe incision just as well as in the usual way.

To review the features of the case: The presence of other polyps near the carcinoma suggests strongly the malignant degeneration of primarily simple papilloma. The latter disease was his daughter's fatal sickness. By the patient's first examination two years ago we have the fact ascertained that the father became affected with rectal polyps after his daughter's death. These facts would suggest a possible infectiousness of intestinal polyposis, and the difference of the ages would account for the malignant character by "intensity" in the father by "extensiveness" in the girl.

A nephew of F.'s, twenty-nine years of age, came under my care after writing down the above report. He is a young man of slim build, twenty-nine years of age, unmarried. Since two years he has suffered repeatedly from large intestinal hæmorrhages, but appears well in every other way. I had an opportunity to examine him, and found five inches above the anus two large pedunculated polyps, one smooth, the other of cauliflower shape. Over his abdomen there could be felt the same little apparently glandular indurations that were noticed in his cousin.